HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 10011570-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): William D. Holland

Confirmation No.: 5976

Application No.: 10/700,956

Examiner: Rory B. Finneren

Filing Date: 10/31/2003

Group Art Unit: 2828

Title: Laser Scanning Apparatuses, Laser Scanning Methods and Article of Manufacture

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on August 7, 2006.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) $500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

( ) (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

( )	one month	$120.00
( )	two months	$450.00
( )	three months	$1020.00
( )	four months	$1590.00

( ) The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **08-2025** the sum of $500.00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

( ) I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450. Date of Deposit:_____

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(X) I hereby certify that this paper is being transmitted to the Patent and Trademark Office facsimile number (571) 273-8300 on 10/10/06

Number of pages: 28

Typed Name: Natalie King

Signature:

Respectfully submitted,

William D. Holland

By _____

James D. Shaurette

Attorney/Agent for Applicant(s)

Reg. No. 39,833

Date: 10/10/06

Telephone No.: (509) 624-4276

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No. 10/700,956
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Inventor..... William D. Holland
Assignee..... Hewlett-Packard Development Company, L.P.
Group Art Unit 2828
Examiner..... Rory B. Finneren
Attorney's Docket No. ..... PDNO. 10011570-1
Confirmation No..... 5976
Title: Laser Scanning Apparatuses, Laser Scanning Methods, and Article of Manufacture

BRIEF OF APPELLANT

To: Mail Stop Appeal Brief-Patents
Commissioner of Patents
P.O. Box 1450
Alexandria VA 22313-1450

From: James D. Shaurette (Tel. 509-624-4276; Fax 509-838-3424)
Wells, St. John, P.S.
601 W. First Avenue, Suite 1300
Spokane, WA 99201-3817

Appellant appeals from the Office Action mailed May 5, 2006 (hereinafter "Office Action" or "Action"). The Commissioner is authorized to charge the fee required under 37 C.F.R. § 41.20(b)(2) to Deposit Account No. 08-2025.

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I. REAL PARTY IN INTEREST

The real party in interest of this application is Hewlett-Packard Development Company, L.P. as evidenced by the full assignment of the pending application to Hewlett-Packard Development Company, L.P. recorded starting at Reel 014631, Frame 0776, in the Assignment Branch of the Patent and Trademark Office. The Hewlett-Packard Development Company, L.P., is a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's undersigned legal representative, and the assignee of the pending application are aware of no appeals or interferences which will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF THE CLAIMS

Claims 1-12 and 14-44 are pending. Claims 1-12, 14-42 and 44 stand rejected. Claim 43 is objected to. Appellant appeals the rejections of claims 1-12, 14-28 and 31-42.

IV. STATUS OF AMENDMENTS

No amendments have been filed after the Office Action mailed May 5, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Referring to claim 1, a light source 102, scanning device 106 and start of scan detector assembly 112 are described in one embodiment at page 4, lines 14+ of the specification with respect to Fig. 3.

Referring to claim 9, a scanning device 106 is described in one embodiment at page 4, lines 14+ of the specification with respect to Fig. 3. A photodetector 118 is described in one embodiment at page 5, lines 9+ of the specification. A

control system 202 is shown in Fig. 4 and described at page 7, lines 5+ according to one embodiment.

Referring to claim 14, a laser is described at page 9, lines 12+ according to one embodiment. A light source 102 and a scanning device 106 are described in one embodiment at page 4, lines 14+ of the specification with respect to Fig. 3. A control system 202 is shown in Fig. 4 and described at page 7, lines 5+ according to one embodiment.

Referring to claim 18, exemplary embodiments of the means for generating, means of scanning and means for sampling are described with respect to a light source 102, scanning device 106 and start of scan detector assembly 112 described at page 4, lines 14+ of the specification with respect to Fig. 3. One embodiment of a means for receiving and for maintaining are described with respect to a control system 202 shown in Fig. 4 and described at page 7, lines 5+.

Referring to claim 22, generating a light beam, providing a rotating scanning device and sampling a light beam are described in one embodiment with respect to a light source 102, scanning device 106 and start of scan detector assembly 112 described at page 4, lines 14+ of the specification with respect to Fig. 3. Controlling a light source is described with respect to a control system 202 shown in Fig. 4 and described at page 7, lines 5+ according to one embodiment.

Referring to claim 31, an article of manufacture and processor usable media are described in one embodiment at page 8, lines 24+. Controlling a light source, and accessing an output of a start-of-scan detector assembly 112 are described at page 8, lines 32+ and at page 9, lines 15+ in one embodiment. Processing of the output of the detector assembly is described at page 9, lines 27+ of the specification in one embodiment. Adjustment of a control signal is described at page 9, lines 30+ of the specification in one embodiment.

Referring to dependent claim 19, means for generating in the form of a laser described at page 9, lines 12+ according to one embodiment.

Referring to dependent claim 33, a laser is described at page 9, lines 12+ according to one embodiment.

Referring to dependent claim 36, varying a control signal is described at page 9, lines 30+ of the specification in one embodiment.

Referring to dependent claim 38, a laser is described at page 9, lines 12+ according to one embodiment.

Referring to dependent claim 40, a light source in the form of a laser is described at page 9, lines 12+ according to one embodiment. Control of a light source is described at page 9, lines 30+ of the specification in one embodiment.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. The 102 rejection of claims 1-8 and 33-37 over Tompkins.

B. The 102 rejection of claims 9-12 and 38 over Tompkins.

C. The 102 rejection of claims 14-17 and 39 over Tompkins.

D. The 102 rejection of claims 18-21 over Tompkins.

E. The 102 rejection of claims 22-28 and 40-42 over Tompkins.

F. The 102 rejection of claims 31-32 over Tompkins.

G. The 103 rejection of claim 36 over the combination of Araki and Tompkins.

H. The 103 rejection of claims 33 and 38 over the combination of Araki and Tompkins.

I. The 103 rejection of claim 40 over the combination of Araki and Tompkins.

J. The 103 rejection of claim 36 over Tompkins and Araki.

K. The 102 rejection of claim 19 over Tompkins.

L. The 103 rejection of claim 40 over Tompkins and Araki.

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VII. ARGUMENT

A. Positively-recited limitations of claims 1-8 and 33-37 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

Referring to the anticipation rejections, Appellant notes the requirements of MPEP §2131 (8th ed., rev. 3), which states that TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM. The identical invention must be shown in as complete detail in the prior art as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements of the prior art must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Referring to independent claim 1, the laser scanning apparatus comprises a *light source configured to generate a light beam* and a start-of-scan detector assembly configured to sample the light beam, and wherein the *sampled light beam is used to control a drive level of the light source*. Appellant respectfully submits that these limitations are not disclosed by Tompkins and the 102 rejection is improper for at least this reason.

In particular, in the Office Action dated November 3, 2005, the Office relied upon the teachings of laser 10 of Fig. 1 of Tompkins as teaching the claimed light source. This reliance is repeated on page 5 of the Action. However, Tompkins is clear at col. 4, lines 31+ that laser 10 generates the light beam 12 and acousto-optic modulator 20 performs varying of either amplitude or phase of the laser beam 12 *after generation of the light beam 12 by light source 10*. As disclosed at col. 4, lines 40+ of Tompkins, the modulator 20 is positioned to receive the light beam 12 generated by laser 10. Modulator 20 is configured to implement amplitude or phase modulation *of the received light beam 12*. As is clear from the teachings of Tompkins, modulation of the already generated light beam 12 is performed responsive to the output of photodetector 38 and *Tompkins fails to teach or suggest any control of a drive level of laser 10 responsive to the output of photodetector 38*. Accordingly, the teachings of Tompkins fail to disclose or suggest the claimed *detector assembly configured to sample a light beam and the sampled light beam is used to control a drive level of a light source configured to generate the light beam* as claimed. Positively-recited limitations of claim 1 are not

taught nor suggested by the prior art and claim 1 recites patentable subject matter over Tompkins for at least this reason.

Referring to page 2 of the Action, the Office also relies upon the teachings of multiple references 10, 14, 16 and 20 of Fig. 1 of Tompkins as allegedly teaching the light source to support the rejection. However, the interpretation by the Office is contrary to the explicit teachings of Tompkins. Claim 1 clearly recites the *light source configured to generate the light beam.* Fig. 1 of Tompkins clearly depicts *light beam 12 originating from laser 10 and is present before it is transmitted to downstream references 14, 16, 20.* Indeed, col. 4, lines 30+ of Tompkins state that *laser 10 generates light beam 12* which is received by references 14, 16, 20 downstream of laser 10. The light beam 12 has already been generated and is in existence before the application to references 14, 16, 20 and references 14, 16, 20 cannot be fairly interpreted to teach the claimed light source configured to generate the light beam. Applicant respectfully submits the Office has misinterpreted the clear Tompkins teachings to support of the rejection of claim 1 and in a manner which is directly contrary to the explicit teachings of Tompkins. The light beam 12 is present and in existence before reception by references 14, 16, 20. Appellant respectfully submits that only laser 10 may be considered as a light source configured to generate a light beam in view of the explicit teachings of Tompkins reciting the laser 10 generating the light beam 12. Tompkins fails to teach any control of a drive level of the laser 10 using a sampled light beam as claimed.

Even if references 10, 14, 16, 20 are considered to disclose a light source (which Appellant respectfully submits is improper for at least the above-mentioned reasons), the modification of the amplitude by reference 20 may not be considered to teach or suggest control of *a drive level of a light source*. The drive level of laser 10 has already been implemented to generate the beam 12 and any modification of the light signal 12 by modulator 20 may not be fairly considered to disclose control of the drive level of the light source as claimed.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

B. Positively-recited limitations of claims 9-12 and 38 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

Claim 9 recites a control system configured to receive an indication of a sampled light beam from a photodetector and to *control a drive level of the light source responsive to the indication of the sampled light*, and the *control system is configured to maintain the light source at a constant drive level during scanning of a single line of information on the photoconductor.*

As discussed previously, Tompkins fails to disclose control of a *drive level* of a light source responsive to an indication of sampled light as claimed. In particular, Tompkins fails to teach control of a drive level of laser 10 responsive to an indication of sampled light and references 14, 16, 18 may not be fairly interpreted as a light source. Appellant submits the claims are allowable for at least this reason.

In addition, at page 6 of the Action, the Office recites teachings in col. 4, lines 10-12 and col. 8, lines 65-68 of Tompkins in support of the rejection and as allegedly teachings the claimed control system configured to maintain the light source at a constant drive level during the scanning of the single line of information. However, the teachings at col. 4 of Tompkins relied upon by the Office baldly refer to "correction techniques" including beam intensity correction as provided by the output of the second comparator. Appellant has failed to uncover any reference in the teachings of col. 4 to maintenance of a light source at a *constant drive level* let alone the *maintenance of the light source at the constant drive level during scanning of the single line of information on the photoconductor* as specifically claimed.

Referring to col. 8, lines 65-68 of Tompkins relied upon by the Office, the reference discloses the output from counter 76 controls the amplitude of the signal received by the acoustooptic modulator and consequently the intensity of the laser beam striking the photoelectric drum. Again, the identified teachings fail to teach any maintenance of a light source at a *constant drive level* let alone the *maintenance of the light source at the constant drive level during scanning of the single line of information on the photoconductor* as specifically claimed.

At page 3 of the Action, the Office states that col. 4, lines 10-13 of Tompkins disclose continuous beam intensity correction which occurs continuously and therefore occurs during scanning of each line of information. However, even if this allegation on page 3 of the Action is accurate, the *continuous* teachings of Tompkins fail to teach the claimed maintenance of the light source at a *constant drive level* during scanning of the single line of information on the photoconductor.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

C. Positively-recited limitations of claims 14-17 and 39 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

Referring to claim 14, the laser scanning apparatus comprises *a laser configured to generate a light beam*, and a control system configured to receive an indication of the sampled light beam from a photodetector and to maintain *a drive level of the laser at a constant drive level during scanning of the line of information* onto the photoconductor. These limitations are not disclosed by Tompkins and the rejection is improper for at least this reason.

Tompkins fails to teach any control of *laser 10* let alone the claimed control system configured to maintain the drive level of the *laser* at a constant drive level. Appellant submits claim 14 is allowable for this reason alone.

The Office on page 7 of the Action states that the teachings of col. 4, lines 10-12 and col. 8, lines 65-68 of Tompkins disclose the claimed control system. The teachings in col. 4 disclose the facet-to-axis errors are corrected by frequency modulation controlled by the output of a comparator and by beam intensity correction as provided by the output of the second comparator. These teachings fail to disclose or suggest the claimed control system configured to receive the indication of the sampled light beam. The teachings of col. 4 also fail to teach or suggest the control system configured to maintain the drive level of the laser at the constant drive level during scanning of the line of information as positively claimed. Appellant has failed to locate any teachings in Tompkins of maintenance of a drive

level of laser 10 at a constant drive level as claimed let alone the claimed control system configured to maintain the drive level of the laser at the constant drive level.

Referring to the teachings in col. 8 of Tompkins, the reference discloses the output from counter 76 controls the amplitude of the signal received by the acoustoptic modulator 20 and consequently the intensity of the laser beam striking the photoelectric drum. The teachings fail to disclose a control system configured to receive an indication of the sampled light beam from a photodetector and to maintain *a drive level of the laser at a constant drive level during scanning of the line of information* onto the photoconductor as specifically claimed. Appellant has failed to locate any teachings in Tompkins of maintenance of a drive level of a laser at a constant drive level as claimed let alone the claimed control system configured to maintain the drive level of the laser at the constant drive level.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

D. Positively-recited limitations of claims 18-21 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

Referring to claim 18, the laser scanning apparatus comprises *means for generating a light beam* and means for receiving an indication of the sampled light beam and *for maintaining the means for generating at a constant drive level using the indication of the sampled light beam* and during scanning of the line of information.

Appellant has failed to uncover any teachings of the claimed means for generating a light beam in combination with the claimed means for receiving an indication of the sampled light beam and for maintaining the means for generating at a constant drive level using the indication of the sampled light beam as claimed. Laser 10 is disclosed at col. 4, lines 30+ of Tompkins as generating the light beam 12 and Appellant has failed to uncover any teaching of maintaining laser 10 at a constant drive level, let alone the claimed maintaining at the constant drive level using an indication of a sampled light beam.

Also, the Office at page 8 of the Office Action baldly identifies reference 20 as allegedly teaching the claimed means for receiving the indication of the sampled

light beam and the means for maintaining the means for generating at a constant drive level using the indication of the sampled light beam. Appellants have failed to identify any teachings of reference 20 disclosing the means for maintaining. Appellant has failed to uncover any control of laser 10 using reference 20 in Tompkins. Appellant has failed to uncover any teachings of reference 20 of Tompkins disclosing the *means for maintaining the means for generating at the constant drive level using the indication of the sampled light beam*. The Office at page 8 has failed to provide any rationale as how reference 20 is considered to teach the above-recited limitations.

Furthermore, the teachings of references 10, 12, 14, and 16 relied upon on page 3 of the Office Action are not collectively disclosed as a means for generating a light beam as laser 10 is explicitly disclosed in col. 4, lines 30+ of Tompkins as generating the light beam. Additionally, there is no teaching regarding references 10, 12, 14 and 16 as disclosing *means for maintaining the means for generating at a constant drive level* as claimed.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

E. Positively-recited limitations of claims 22-28 and 40-42 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

At page 4 of the Action, the Office relies upon the teachings of components 10, 12, 14, 16, 20 as allegedly disclosing the claimed generating a light beam using a light source and the function of AOM 20 is alleged by the Office to perform the function of the claimed controlling the light source using the sampled light beam.

However, the teachings of Tompkins are explicit that *only component 10 generates the light beam per col. 4, lines 30+*. The *light beam 12 is generated and in existence prior to reception by downstream components 14, 16, 20*. The light beam has already been generated by the time it is received by downstream components 14, 16, 20. Accordingly, laser 10 of Tompkins is the only component which discloses the claimed generating the light beam. Tompkins is void of teaching or suggesting the claimed *controlling the light source using the sampled*

light beam in combination with the *generating the light beam using the light source* as explicitly claimed.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

F. Positively-recited limitations of claims 31-32 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

At page 9 of the Action, the Office identifies RAM 84, 92 (of Fig. 3) as disclosing the claimed processor-usable medium. The Office thereafter on page 10 of the Action relies upon teachings of Tompkins at cols. 3 and 9 on page 10 as allegedly teaching the claimed output, access, process and adjust limitations. Appellant has failed to uncover any disclosure of the teachings of cols. 3 or 9 allegedly disclosing the claimed output, access, process and adjust limitations being implemented by programming configured to cause processing circuitry to output, access, process and adjust as positively recited in claim 31. Appellant has failed to uncover any teaching of the claimed output access, process or adjust limitations being performed responsive to programming in RAM 84, 92.

At page 10 of the Action, the Office identifies teachings of col. 3, lines 4-18 of Tompkins as allegedly disclosing the claimed outputting the control signal to control the light source configured to generate the light beam. However, the identified teachings refer to circuitry of Fig. 3 configured to control modulator 20 and modulator 20 is configured to modulate a light beam already generated by laser 10 and accordingly the teachings with respect to modulator 20 fail to disclose or suggest the claimed control signal to control the light source configured to generate the light beam. In addition, the teachings in col. 9, lines 24-28 of Tompkins identified as allegedly teaching the claimed adjusting refer to control of amplitude modulation of already generated beams 12 by modulator 20 which fails to disclose or suggest *adjusting a control signal which controls the light source configured to generate the light beam* or *adjusting the control signal to adjust an intensity of the light beam generated by the light source* as claimed. Applicants have failed to uncover any teachings of adjusting the intensity using the laser 10 of Tompkins.

At page 4 of the Action, the Office relies upon the teachings of references 10, 14, 16, 20 as allegedly teaching the claimed light source. However, such interpretation is contrary to the explicit teachings of Tompkins at col. 4, lines 30+ which clearly disclose that light beam 12 is generated by laser 10 and exits laser 10 before reception in references 14, 16, 20.

Additionally, there is no evidence or record that programming exists which adjusts a control signal applied to reference 20 of Tompkins.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

G. There is insufficient motivation to combine the teachings of Araki with the teachings of Tompkins and the 103 rejection of claim 36 is improper for at least this reason.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, e.g., MPEP §2143 (8th ed., rev. 3).

MPEP 2142 (8th ed., rev. 3) states that the concept of *prima facie* obviousness allocates who has the burden of going forward with production of evidence in each step of the examination process and the *examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness.* The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness, that is, the initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. MPEP §2142 (8th ed., rev. 3).

The Federal Circuit discussed proper motivation *In re Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). The Court in *In re Lee* stated the factual inquiry whether to combine references must be *thorough and searching*. It must be based *on objective evidence of record*. The Court in *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir.

1992) stated motivation is provided only by showing some *objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art* would lead that individual to combine the relevant teachings of the references. The *Lee* Court stated that the Examiner's *conclusory statements* in the *Lee* case do not adequately address the issue of motivation to combine. The Court additionally stated that the factual question of motivation is material to patentability and *can not be resolved on subjective belief and unknown authority. The Court also stated that deficiencies of cited references cannot be remedied by general conclusions about what is basic knowledge or common sense but rather specific factual findings are needed. The Court further stated that the determination of patentability must be based on evidence.* MPEP 2143.01 (8th ed., rev. 3) cites *In re Lee* and states the importance of relying upon *objective evidence* and *making specific factual findings* with respect to the motivation to combine references.

At page 14 of the Action, the Office states the motivation to combine the Araki and Tompkins references is "for the purpose of adjusting the intensity of the laser beam." Appellant respectfully submits the motivation is insufficient. In particular, Tompkins teaches the modulator 20 providing amplitude and phase varying of the already generated laser beam. Accordingly, Tompkins already discloses a system to vary the intensity of the laser beam. There is no advantage or improvement resulting from the combination of reference teachings. Appellant submits it is inappropriate to rely upon a teaching of another reference (Araki) when the reference being modified (Tompkins) already provides teachings for which the other reference is provided (i.e., Tompkins already discloses a method of intensity adjustment). Appellants further submit it is inappropriate to rely upon another reference for a solution to a problem when the reference being modified already provides a solution to the problem for which the other teaching is provided.

The Office has failed to recite any evidence in support of the combination of Araki and Tompkins. The Office has failed to point to any improvement or advantage resulting from the combination. Furthermore, Appellant notes that significant modification to the Tompkins system would be necessary to accommodate Araki with no improvement resulting therefrom and MPEP 2143.01 VI (8th ed., rev. 3) citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)

provides that a substantial reconstruction and redesign of the elements shown in the primary reference may be sufficient to overturn an obviousness rejection.

For at least the above-mentioned compelling reasons, Appellant respectfully submits the Office has failed to meet its burden of establishing proper motivation to combine the references and the 103 rejection is improper for at least this reason.

H. There is insufficient motivation to combine the teachings of Araki with the teachings of Tompkins and the 103 rejection of claims 33 and 38 is improper for at least this reason.

At pages 13-14 of the Action, the Office baldly states that the combination of Araki with Tompkins is appropriate "for the purpose of generating the beam of coherent light." Appellants respectfully submit this is insufficient motivation to combine the references. The motivation is not supported by any objective evidence of record. There is no evidence identified or explanation provided as to how any improvement or advantage results from the proposed combination to combine the reference teachings. There is no evidence or explanation that a beam of coherent light results from the combination or that such is advantageous in any way.

For at least the above-mentioned compelling reasons, Appellant respectfully submits the Office has failed to meet its burden of establishing proper motivation to combine the references and the 103 rejection is improper for at least this reason.

I. There is insufficient motivation to combine the teachings of Araki with the teachings of Tompkins and the 103 rejection of claim 40 is improper for at least this reason.

At page 15 of the Action, the Office baldly states that the combination is proper "for the purpose of directly controlling the drive level of the laser beam." Appellants respectfully submit this is insufficient motivation to combine the references. The motivation is not supported by any objective evidence of record. There is no evidence identified or explanation provided as to how any improvement or advantage results from the proposed combination to combine the reference teachings. In addition, the teachings of Araki are redundant to the teachings of Tompkins with respect to modulator 20 providing phase and amplitude modulation.

For at least the above-mentioned compelling reasons, Appellant respectfully submits the Office has failed to meet its burden of establishing proper motivation to combine the references and the 103 rejection is improper for at least this reason.

J. Positively-recited limitations of claim 36 are not disclosed nor suggested by Tompkins or Araki and the 103 rejection is improper for at least this reason.

Claim 36 recites in combination with the limitations of claims 1 and 33 that the light source comprises a laser, and the *control system is configured to provide a control signal to control the drive level of the laser during the generation of the light beam* and the *control system is configured to vary the control signal responsive to the sampled light beam*. The Office relies upon the teachings of the Abstract of Araki in support of the rejection and to cure the deficiencies of the teachings of Tompkins. However, the Abstract provides a laser diode controller for controlling a laser diode to emit a laser beam but such teachings are void of disclosing or suggesting the claimed control signal to control the drive level of the laser and to vary the control signal responsive to the sampled light beam as claimed.

Appellant respectfully submits that Tompkins and Araki fail to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

K. Positively-recited limitations of claims 19 are not disclosed nor suggested by Tompkins and the 102 rejection is improper for at least this reason.

Claim 19 in combination with the limitations of claim 18 recites the means for generating a light beam comprises a laser, and means for maintaining the means for generating at a constant drive level using an indication of a sampled light beam during the scanning of a line of information onto a photoconductor. At page 8 of the Action, the Office baldly relies upon the Abstract and reference 10 of Tompkins in support of the rejection. However, Appellants respectfully submit Tompkins is void of control of laser 10 since variance of the light beam is implemented using modulator 20. Tompkins is void of the claimed means for maintaining the means for generating (i.e., comprising the laser) at a constant drive level using an indication of a sampled light beam as claimed.

Appellant respectfully submits that Tompkins fails to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

L. Positively-recited limitations of claim 40 are not disclosed nor suggested by Tompkins or Araki and the 103 rejection is improper for at least this reason.

Claim 40 recites *generating a light beam using a light source comprising a laser and controlling the laser using the sampled light beam*. The Office relies upon the teachings of the Fig. 1 of Araki in support of the rejection and to cure the deficiencies of the teachings of Tompkins. However, Appellants have failed to uncover any teachings in Araki of the controlling the laser using the sampled light beam as positively-recited in claim 40.

Appellant respectfully submits that Tompkins and Araki fail to teach at least the above-recited limitations of the claims and the rejection is improper for at least this reason.

M. Conclusion

In view of the foregoing, reversal of the rejections of the claims is respectfully requested. For any one of the above-stated reasons, the rejections of the respective claims should be reversed. In combination, the above-stated reasons overwhelmingly support such reversal. Accordingly, Appellants respectfully request that the Board reverse the rejections of the claims.

Respectfully submitted,

Date: 10/10/06 Attorney: _____

James D. Shaurette
Reg. No. 39,833

VIII. CLAIMS APPENDIX

1. [Previously Presented] A laser scanning apparatus comprising:

a light source configured to generate a light beam;

a scanning device optically coupled with the light source and configured to scan the light beam along a photoconductor in a plurality of scan lines; and

a start-of-scan detector assembly configured to sample the light beam and initiate a start-of-scan operation of one of the scan lines of information to be written on the photoconductor, and wherein the sampled light beam is used to control a drive level of the light source.

2. [Original] The apparatus of claim 1, further comprising:

a control system configured to receive a signal from the detector assembly and to control the drive level of the light source based on the signal.

3. [Original] The apparatus of claim 2, wherein the control system comprises processing circuitry configured to compare an indication of the sampled light beam from the signal with a predetermined value.

4. [Original] The apparatus of claim 2, wherein the control system is configured to maintain the drive level of the light source at a predetermined drive level during scanning of the one scan line.

5. [Original] The apparatus of claim 1, wherein the light source comprises a vertical cavity surface emitting laser diode (VCSEL).

6. [Original] The apparatus of claim 1, wherein the light beam is sampled only once per scan line of information written on the photoconductor, and the light beam is sampled prior to writing the scan line of information on the photoconductor.

7. [Original] The apparatus of claim 1, wherein the scanning device comprises a rotating polygon mirror.

8. [Original] The apparatus of claim 1, wherein the start-of-scan detector assembly is disposed outside of a scan area of the photoconductor.

9. [Previously Presented] A laser scanning apparatus comprising:

a rotating scanning device configured to scan a light beam from a light source;

a photodetector optically coupled with the rotating scanning device and configured to sample the light beam from the rotating scanning device;

a control system configured to receive an indication of the sampled light beam from the photodetector and to control a drive level of the light source responsive to the indication of the sampled light; and

wherein the control system is configured to maintain the light source at a constant drive level during scanning of a single line of information on the photoconductor.

10. [Original] The apparatus of claim 9, wherein the light source is configured to emit light in a single direction.

11. [Original] The apparatus of claim 9, wherein the light source comprises a vertical cavity surface emission laser diode (VCSEL).

12. [Original] The apparatus of claim 9, wherein the control system comprises processing circuitry configured to compare an indication of the sampled light beam with a predetermined drive level value, and to control the drive level of the light source based on the comparison.

13. [Canceled].

14. [Previously Presented] A laser scanning apparatus comprising:

a laser configured to generate a light beam;

a scanning device configured to scan the light beam from the laser;

a photodetector optically coupled with the scanning device and configured to sample the light beam only once per line of information scanned onto a photoconductor; and

a control system configured to receive an indication of the sampled light beam from the photodetector and to maintain a drive level of the laser at a constant drive level during scanning of the line of information onto the photoconductor.

15. [Previously Presented] The apparatus of claim 14, wherein the laser is configured to emit a light beam in a single direction.

16. [Previously Presented] The apparatus of claim 14, wherein the photodetector is utilized to initiate a start of scan operation of the line of information.

17. [Original] The apparatus of claim 14, wherein the sampled light beam is obtained before scanning a line of information onto the photoconductor.

18. [Previously Presented] A laser scanning apparatus comprising:

means for generating a light beam;

means for scanning the light beam onto a photoconductor;

means for sampling the light beam which causes information to be scanned onto the photoconductor; and

means for receiving an indication of the sampled light beam from the means for sampling and for maintaining the means for generating at a constant drive level using the indication of the sampled light beam and during scanning of the line of information onto the photoconductor.

19. [Previously Presented] The apparatus of claim 18, wherein the means for generating comprises a laser.

20. [Original] The apparatus of claim 18, wherein the light beam is sampled before writing a scan line of information onto the photoconductor.

21. [Original] The apparatus of claim 18, wherein the means for sampling is disposed outside of a scan area of the photoconductor.

22. [Previously Presented] A laser scanning method comprising:

generating a light beam using a light source;

providing a rotating scanning device and a photoconductor;

scanning the light beam along the photoconductor using the rotating scanning device;

sampling the light beam from the rotating scanning device using a sampling assembly; and

controlling the light source using the sampled light beam.

23. [Original] The method of claim 22, further comprising:

initiating writing of a scan line of information onto the photoconductor using the sampling assembly.

24. [Previously Presented] The method of claim 22, wherein the controlling comprises:

receiving the sampled light beam in a control system;

comparing an indication of the sampled light beam with a predetermined drive level value; and

wherein the controlling comprises controlling ~~the~~ a drive level of the light source responsive to the comparison.

25. [Original] The method of claim 22, further comprising:

maintaining an output power of the light source at a constant level during writing of a single scan line of information onto the photoconductor.

26. [Original] The method of claim 22, wherein the light source comprises a vertical cavity surface emitting laser diode (VCSEL).

27. [Original] The method of claim 22, wherein the sampling is performed only once per scan line of information written on the photoconductor and prior to writing the scan line of information on the photoconductor.

28. [Original] The method of claim 22, wherein the sampling assembly is located outside of a scan area of the photoconductor.

31. [Original] An article of manufacture comprising:

processor-usable media comprising programming configured to cause processing circuitry to:

output a control signal to control a light source configured to generate a light beam used to scan a plurality of scan lines of information onto a photoconductor;

access an output of a start-of-scan detector assembly generated responsive to detection of the light beam thereby, wherein the output indicates appropriate timing for initiation of writing of the information for the respective scan lines;

process the output of the start-of-scan detector assembly; and

adjust the control signal responsive to the processing of the output to adjust an intensity of the light beam generated by the light source.

32. [Original] The article of manufacture of claim 31, wherein the programming is further configured to cause the processing circuitry to adjust the control signal to provide the light beam having a substantially constant intensity during the scanning of the scan lines.

33. [Previously Presented] The apparatus of claim 1 wherein the light source comprises a laser configured to generate the light beam.

34. [Previously Presented] The apparatus of claim 33 wherein the laser is configured to generate all of the photons of the light beam which is sampled by the detector assembly.

35. [Previously Presented] The apparatus of claim 33 wherein the laser is configured to generate the light beam void of any light received by the laser.

36. [Previously Presented] The apparatus of claim 33 further comprising a control system configured to provide a control signal to control the drive level of the laser during the generation of the light beam, and wherein the control system is configured to vary the control signal responsive to the sampled light beam.

37. [Previously Presented] The apparatus of claim 1 wherein the light source is configured to generate an entirety of the light beam for the first time, and wherein the light beam is void of any other light generated by a source different than the light source.

38. [Previously Presented] The apparatus of claim 9 further comprising the light source comprising a laser configured to generate the light beam.

39. [Previously Presented] The apparatus of claim 14 wherein the control system is configured to maintain the drive level of the laser responsive to the indication.

40. [Previously Presented] The method of claim 22 wherein the generating comprises generating using the light source comprising a laser, and the controlling comprises controlling the laser using the sampled light beam.

41. [Previously Presented] The method of claim 22 wherein the generating comprises generating all light of the light beam using the light source.

42. [Previously Presented] The method of claim 22 wherein the controlling comprises:

applying a control signal to control the light source; and

varying the control signal responsive to the sampled light beam.

IX. EVIDENCE APPENDIX

Appellants submit no evidence with this appellate brief.

X. RELATED PROCEEDINGS APPENDIX

Appellants are not aware of any related proceedings.